CHAPTER XXI.

DEFENCE NOT DEFIANCE.

The last week of our honeymoon had arrived. How delightful if life could be one long honeymoon on a farm. You have there sufficient occupation to make you feel that really you should be allowed to see a little more of your new made wife. Only to be with her about twenty-one out of the twenty-four hours does seem rather hard. Perhaps after all it's as well as it is. One might at last get tired of even a honeymoon. I was once told of a royal personage who actually got tired of hearing "God save the Queen" played, though I never could believe it.

The committee adjourned from Thursday evening to Monday morning, so Diso came out to see us all, at least, that is what he pretended. He had gradually discovered that Nellie was the most beautiful, cleverest and most superlative of women, while she saw in him the future president of Undara, and the wisest and nicest man that ever was. They were both the happier for their discoveries, and as they duly became engaged, and were married, they remained in ignorance of their error all their lives, which was only as it should be.

Diso, who had brought out with him a handsome compressed-air carriage, took his new found divinity, Mary, and me to see the College of Engineers and Patents.

"I brought the air carriage," he explained, "because I understand it better than a horse, and it is more reliable."

It certainly was an excellent means of journeying, and as a motive power this air, the seeming nothing that we breathe, and in which we live, to escape its metal prison moved us swiftly along. The vehicle on big wheels, tyre by compressed air tubes, was very comfortable and joltless.

"Diso," said Mary, "this country air and sunshine agrees with you. You look very well."

"It is not the air and the sunshine that have made me happy. There are other rays than those of the sun that bring joy and strength. Once I thought that his bright beams alone brought the beauty and perfumes to the flowers, and the music to the voice of the birds, and life to the earth."
He looked at Nellie and smiled.
"After all the sun may be the father of these things, but they owe more to the joy bird who is their mother."

Actually the women blushed with pleasure, and thought this nonsense divine poetry. Well, the man meant it, and the women appreciated it, and other people have—it is to be hoped—passed through the same absurd, desirable delightful state, so it's not for us to make remarks.

The college was on the left bank of the Voa, from which a little stream flowed into an artificial lake, and returned to the river lower down.

This rivulet was embanked, and on either side contained water-wheels of every description, busily working. On this lake were many launches, while scattered round the grounds were windmills of every description. The college was an enormous square pile of buildings. On each corner was a square tower, while from the centre rose still another, but larger and taller by far than any one of the others. We stopped.

"The centre tower," said Diso, "is used as an observatory, and is in the middle of a hollow square of buildings, which are connected with it by a glass roof, and four bridges of different designs."

As we drove up to the gate it opened of its own accord, and as we passed through closed.

"I suppose they did that at the college for us, by electricity?" I asked.

"No," said Diso. "Our own two wheels, by pressing down two levers over which we went, caused the gate to open, and similarly two levers on the other side caused it to close."

Stopping at a portico, we got down, entered, and were taken to the quadrangle, where a number of young men were working at various metals, under the supervision of different instructors. From one group came a man of middle height, grey-haired, grey-bearded and spectacled. His face, smiling and kind, showed the sympathy with which he listened, and anon became animated as he spoke. Diso introduced him as Edena Kerna, the Master of the College.

"I am sorry, Dr. Frank, that you are not an engineer," he said, "as you could then fully realize the wonders of our college. Engineers who have been to the Middle Globe say that engineering has not yet even risen to the dignity of a compulsory degree and learned profession, though lately, I believe, it is being methodically studied."

"It is only different to the other professions," I answered, "inasmuch as in most countries, instead of studying it first in all its branches, men, without general preparation, devote all their attention to one of its divisions only."

"They are wrong," said Kerna, decidedly. "With us a man
who has not passed proper examinations, as he would for medicine or law, is not allowed even to style himself an engineer."

"So Duke Dreman told me."

"He is the most wonderful inventor I ever knew or heard of," said Kerna, enthusiastically. "While others can only invent by calculation, he invents by inspiration, and mentally completes his design before putting it on paper."

First Kerna took us to a library and museum of models.

"This," he explained, "is the Patent Office. If a man or woman, though the latter hardly ever invent, believe they have invented something of value, they make out full plans and drawings, and send them here with a fee. We examine them, and if they are worthless, or already discovered, duly inform the would-be patentee. If they are new and may possibly be of value, they are worked out, either with or without the inventor's assistance, purchased from him and made known for the benefit of everyone."

"Would it not give him greater encouragement, and be as well for the community," I queried, "if you allowed him to register his invention and sell it as he liked?"

"No. A man is encouraged more by the certainty than the greatness of a reward. Anyone in Zara who invents anything, knows he is certain of an adequate remuneration, and the honour of his discovery, so that everyone is always striving to invent. At Ura they do as you say, and find that though in extreme instances inventors may make large fortunes, they are, as a rule, robbed of their inventions, and get neither profit nor honour, therefore many men, who might otherwise invent, do not trouble. As for the community, they are certainly better off by having inventions free to all, while working out or developing inventions is the best possible exercise for engineers at all periods of their careers."

Some of the models of flying machines and balloons were beautifully constructed, and flew round the room like birds. Engines, windmills, water-wheels, and endless machines in miniature were set out in every direction, frequently side by side with the feeble mechanisms they had superseded. Next we were taken to the grounds, where we saw engines running by electricity and compressed air, side by side, on different sets of rails.

"Which power is the best?" I asked Edna Kerna.

"That," he answered, "is a matter we have not yet decided. Since we have invented air taps which do not leak under any pressure, air, as a motive power, is very much used, for it is so much lighter than electricity. When weight is not a consideration, electricity is used."

We next went into the workshops. Here we found the students, employed at and learning metal work.
“All our work is done by the students,” said Kerna. “They are taught both theory and practice, commencing with the roughest and simplest blacksmith and surveying work, they pass examinations in both, and finally become educated engineers.”

“No. Even the Uras are too enlightened for that, and understand that the most perfect man is the one who cultivates both brain and muscle. In Gurla they are so extremely unenlightened, that the ruling class think it degrading to put their muscle to any useful purpose. Neither men nor women are there ashamed of leading perfectly useless lives.”

I felt grieved to think that in the country of my birth there were many people as unenlightened. I remember meeting a man who had come to Scotland for the shooting. A handsome, strong man. He shot in the shooting season, hunted in the hunting season, yachted in the yachting season, and spent the rest of his time pleasure-hunting in London, during “The Season,” but never by any chance did he do any good work, not even as much as training a dog or a horse.

“Why do not you get married?” I asked him one day.

“I can’t afford to,” he answered, in the laconic style he cultivated.

“Do you never change your course of life?”

“Once went hunting in India. Never do it again.”

“What does your life lead to?”

“Nothing!”

“When you get too old to do these things, what then?”

“Hope I’ll be a deader.”

I looked at the man in amazement. He was satisfied with, and not ashamed of his life, and society failed to perceive that such an existence is degrading and disgraceful. Of the money he spent on his pleasures, without in any way earning a fraction of it, he contributed less to the State than men who earned a similar sum by labour of the body or brain, while living a noble, unselfish life.

There were hardly any furnaces, which, considering the work done, seemed to me strange.

“You appear to use very little coal, Kerna,” I said.

He took us to a group, who put the metal they were welding between two electric arms, and lo, in a few seconds it became red-hot.

“Since we have taken the power from the rivers,” he answered, triumphantly, “we want very little coal, as they supply electricity and compressed air, from which we get heat, cold, power, and light.”

It seemed wonderful, and yet in the Middle Globe we could do all these things, were we not stopped by petty personal interest, for which the welfare of the many is sacrificed for the good of
the few. We were shown air taps, storage batteries, water-wheels, windmills, and many other things that I could but poorly comprehend. Then we were shown the implements of war, amongst which the torpedoes appealed to me most powerfully."

"These," said Kerna, pointing to some tins shaped like nail cans, "are ground torpedoes, which can be placed under roads, and along the ways likely to be traversed by the enemy, and exploded at will from any required distance. Their presence utterly demoralizes an invading force, so that they have a power of protection far beyond the amount of damage they actually do. With our present implements of war, it is impossible for any hostile nation to do us any serious damage, and it would be equally impossible for us to invade any nation that was armed as we are."

He then showed us a map of the roads of Zara, that were undermined with cellar-like structures, that in time of war held dynamite, to be exploded when required. War is certainly a dreadful thing, but when its engines are developed so as to make it impossible for one nation to invade another, then will all nations soon become civilized by the efforts of their own people.

As we returned home, Diso told us that only few men become qualified engineers, the majority only taking the trouble to learn sufficient to enable them to hold a subordinate position.

Lucy, who had seen us returning, from an upper window, came out to meet us, with her baby in her arms. Mary and Nellie had fondled and petted the chubby mite, till she regarded them as her own property. How healthy women do fondle and love a baby, to be sure. Of all the sights on earth or in heaven, a mother fondling her child is surely the loveliest. The mother—there are no exceptions—patient and regardless of self, as only a mother can be, should never lack the love and duty of the child, though sometimes—alas, that it should be so—she does.

Again Diso's carriage was called into requisition, and this time it took us to the farm barracks. It was a long journey, but passing through the country roads amidst the verdure of early spring was very pleasant. In the distance we saw a captive balloon.

"That," said Diso, "is the war balloon. It is, day and night, captive to the barracks."

"What is the use of it?" I asked.

"It enables the sentries to see an immense distance. In times of war, every regiment is supplied with them, so that they can tell every movement of the enemy."

"The balloonist is in a very dangerous position. Has he to come down to deliver his information?"

"He communicates with the people on the ground by telephone," explained Diso. "His danger is very small indeed, certainly not to be compared with that of a common soldier. He sees the
enemy miles off, long before he is within range of their guns, and
even if the balloon were hit, he frees his water ballast, and is
hauled down long before it can collapse.

We now came in sight of the barracks, which were half hidden
behind a verdure-covered wall, which we found on approaching
to be an earth defence, kept together by a wooden network.
Behind this were the barracks, which consisted of four
buildings of wood and iron, two stories of which were under
ground. Our approach had been duly announced by the
balloonist, and we found Daisy and her husband Cula Dero
waiting to welcome us.

After Daisy and Mary had duly greeted one another in the
affectionate manner common to young married women, Daisy turned
to me,—

"Frank, I can hardly believe you are the same man that two
years ago came to us at the outpost. You seemed all eyes and
beard." "Mary," she said, turning to my wife, "we combed
him out and made him look so nice."

They had done more, they made me feel "so nice." It seemed
an age ago. Daisy was bird-like as ever, and Cula seemed.
if possible, bigger and stronger. As I looked at his graceful
Grecian face, I wondered if he could be one of those who fought
against Hector and Troy, born again to a new life. Showy and
handsome as were the Grecian athletes, their best performance
would only now-a-days be considered second rate.

First Cula took us to the balloon tower, and bringing it to
earth, asked me if I cared to ascend. On replying in the affir­
mative, he directed me to take my seat in the cage, showed me
the telephone and telescope, and slowly let the balloon ascend.
The swaying motion, at first made me feel sick, but as I looked
to the ground beneath me, to which I was only attached by two
cord-like wires, the seeming insecurity of the position frightened
the sickness away. Steadily I ascended, up and up, till the
ground seemed a terrible distance below. The sense of fear
relaxed, and I began to look round. The telephone bell rang. I
listened.

"The balloon is up to the usual height, but I can let you go
up a good deal higher, if you wish."

Quickly I replied that I was up quite high enough, and didn't
want to ascend any further. Beneath me the barracks looked like
toy houses, and the soldiers like children. Away in the distance
the country stretched, a seeming Liliputian territory. Every­
thing was dwarfed. Fixing the telescope again, I looked, and
the distant objects became distinct, and I realized the wonderful
advantage the balloon gave for spying out the doings of an
enemy. A trusty man from my vantage could inform the
general in command, of the enemies' movements, so that he could
direct the fight as he would a chess battle, that is, with a know­
ledge of the movements of all the pieces. On descending, Cula showed us how the man in the balloon, by moving an electric pencil over a map of the country, caused a similar pencil to make the same journey on a copy of the map on the ground, at the other end of the wire.

"Thus, you see," he said, "the balloonist lets us know, not only every movement of friend or foe, but whether our shots fall too near or too far, or in what respect they err."

"But you don't seem to have a sufficient number of soldiers," I answered, "to be of any use, in case of an attack. How many have you in Zara?"

"Every man in Zara," replied Cula, "must be a soldier till he is fifty years of age, unless physically incapable. As a matter of fact, they are all soldiers until over sixty, and in case of need, half the women would fight."

"You must be a nation of soldiers. But when do they drill? I have seen lots of very efficient volunteers, but no soldiers?"

"They commence in childhood. Every boy has to pass a certain examination before he leaves school. As a matter of fact, nearly all the girls pass the same examination voluntarily. This examination proves the passer fit, in every way, to enter the army—drill, gunnery, rules of war, everything. After leaving school, every male has to become a volunteer, or serve for a fortnight in barracks once every two years, till he is fifty, and every man has to keep his kit in readiness and in good order. The result of this is that in a couple of hours, if necessary, ten thousand fully equipped soldiers would assemble at any point in Zara, and in two days every man would join the army, except a few of the policemen."

"Why do you except the policemen?" I asked. "I thought they would make excellent soldiers?"

"So they do," agreed Cula, "but you must leave some men to keep order, so all of those who are over military service age are made special constables, and placed under the command of those of the regular police who are left behind."

"As you leave no men to butcher the animals, or bake the bread, or do the other necessary things, I suppose the women have to do them all?"

"No, the special constables do it. Each constable wears on his arm a number and the letter of his division, and many of them are told off to do the necessary work; butchers to slaughtering, bakers to baking, and so on. In time of war you want very little done. Boot-making, cloth-making, and similar callings, may cease, for with the present destructive appliances, war can only last a very few weeks."

"I can understand how you have lots of good soldiers, for intelligent men, who can shoot and drill, are the best possible men of the line. But where are your leaders? Soldiers must always
depend on their leaders for their success, more than on themselves?

"You are right," said Cula approvingly. "That is so. We have an ample staff of leaders, who devote their time to soldiering, commissary, arms, and all other military matters. I have, at present, the honour to be one of the generals. Diso here (Cula put his hand on Diso's shoulder) is second to none in ability to lead soldiers in war, though he is only a volunteer, and I could say the same of many others. Soldiers proper, that is, men who devote their lives to soldiering, have to pass very searching and severe examinations before they join the staff, after which they extend their studies by their daily duties."

"Then you have a small army?"

"We have, and every man in it is a highly-trained soldier. At Ura, they have a larger army which includes the pick of their working population, whom they keep as celibates in high barracks. The civilians, as a rule, would be useless in time of war. With us, every man is a trained soldier, and the regular army are allowed to marry as freely as any other class of the community. Though the Ura plan is the more costly, and tends to deteriorate the working population, by depriving it of its finest men, ours is far the most efficient, and does not deteriorate the strengths of succeeding generations. In fact, the drilling the men and women undergo is one of the main causes of our physical superiority over the people of Ura, Gurla, or Roda."

This superiority was very noticeable, for almost without exception the people of Zara were of large stature, and great robustness and physical strength, though I attribute it largely to the short hours, absence of an idle or a vicious population, and the enforced sterility of diseased persons.

We dined with Cula's division. The officers and their wives sat at the head of the table, while the soldiers, petty officers, and their wives, occupied the lower end. A similar mess was held at each of the four buildings. The men were dressed in grey uniforms, fashioned like those of soldiers, but their trousers fitted much tighter, and their hats were made of felt, with brims. They certainly were a fine body of men, and far superior to any regiment of the Middle Globe. Many of them were citizens taking their fortnight's drill, which they regarded as a pleasant holiday. After dinner, we were shown the military museum, which contained many trophies and pictures of the war between the Zaras and the Rodas, which took place sixteen years previously. The weapons of the Rodas were only powder-guns and spears, and though they outnumbered the Zaras to the extent of over three to one, they had been easily repulsed.

"The balloons were our great superiority," said Cula. "We could see what they were doing, and so always took them at a disadvantage. The buried torpedoes were very effective, not
only in killing, but in utterly demoralizing them. We stationed a regiment of women in the rear, so that when they were routed they fled to avenging rifles, and very few escaped."

"I should imagine the women would hardly care to slaughter a retreating foe," I said, deprecatingly.

"They did though," said Cula, in a suggestive tone of voice. "In an engagement with a detachment of the Rodas, some days previous to the battle of Hoana, nine of our men were killed, and twenty-one wounded. This filled the women with rage and fierce revenge, and they slaughtered without mercy. We took prisoners, but they took none."

Next, we went to see the drilling, and some manœuvres got up in our honour. The movements were quickly and neatly executed, with an utter absence of that shouting which makes people at the reviews in the Middle Globe think the officers must believe that there are numbers of deaf men in the ranks. A small regiment of women in knickerbockers next executed the drill movements with equal precision, fully accoutred with rifle, revolver, and a short poniard. The rifle used compressed gas as a motive power, and was as light as a fowling-piece. They made no smoke, hardly any report, and used a very much smaller cartridge than ordinary firearms.

As we were taken over the remaining parts of the building, the amount of consideration that was given to every pleasure, seemed to me to be likely to exert an enervating tendency. There was a room for dancing, though indeed, everywhere in Zara, provisions for dancing were made, and another for music, besides shooting galleries, billiard rooms, and others for different pastimes.

"You treat your soldiers very well, Cula. It is a wonder they can spare any time at all for their duties."

"They take as much interest in their duties," said Cula, emphatically, "as they do in their pleasures. The first thing necessary to make a man efficient, is to make him satisfied with his occupation. This we do by providing recreation."

The last evening of our stay at Onara Fields had come. Diso, in a distant corner, was chatting to Nellie about many things she took an interest in, solely because they were his life's work. She, nestling comfortably in a big chair, personified placid happiness. Mary rocked in her arms a sleeping child that had been allowed to stay up, as it was our last evening. Lucy and Andra completed our group.

"Baby will miss you, Mary," said the mistress of Onara Fields.

"And I shall miss the dear little toddler who has adopted me," said Mary, in a loving voice. "See her poor leg, how swollen it
is. She has been complaining all day of headache in her knee. She fell on the floor and hurt it, after breakfast."

"Diso will bring you and Frank out, whenever you can come," said Andra. "He is busy setting all Nellie's churns to work by electricity."

When are they going to get married?" I asked, presently.

"In six months," said Lucy, and then asked,—

"Have you seen the design for the Parliament House at Ura? On the summit of the tower is to be a statue of Duke Dreman, of heroic size."

"It will be like the Law-giver on the summit of the Parliament Houses at Zara," said Andra, "and will for ever mutely direct the people, as he has always led them—Upwards!"